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EXAMINER

BARQADLE, YASIN M

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/543,054

Applicant(s)

PARUPUDI ET AL.

Examiner

Yasin M Barqadle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

Claims 1-67 are presented for examination.

***Specification***

The abstract of the disclosure is objected to because it is more than 150 words. Correction is required. See MPEP § 608.01(b).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, 12-20, 22-36, 45-62, and 64-67 are rejected under 35 U.S.C. 102(e) as being anticipated by Hollenberg US(6091956).

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one or more processors [Fig.2a, Col. 5, lines 13-28; Col. 6, lines 15-30];

memory operably associated with the one or more processors [Col. 5, lines 13-28; Col. 6, lines 15-30]; and

a context service module (Control programs) loadable in the memory and executable by the one or more processors to receive context information from one or more context providers (Fig. 1, 32a-c, 14a-c, GPS 34a, network 30a) and process the information to determine a current device context [Col. 5, lines 13-28; Col. 13, lines 9-63; Col. 23, lines 64-67 and Col. 24, lines 1-67 and Col. 25, lines 1-31].

As per claims 2, 14 and 24, Hollenberg teaches computing device embodied as a mobile computing device [Fig. 2, 2a].

As per claims 3, 15, and 25, Hollenberg teaches computing device embodied as a desktop computing device [Col. 6, lines 15-30].

As per claim 4, Hollenberg teaches computing device wherein the device comprises cache memory that maintains a current device context [Col. 8, lines 25-60].

As per claims 5 and 16, Hollenberg teaches computing device wherein the context service module is configured to automatically

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receive the context information from the context providers [Col. 10, lines 12-24].

As per claims 6 and 17, Hollenberg teaches the computing device of claim 1, wherein the context service module is configured to automatically receive the context information from the context providers and, as the context of the computing device changes, process the information to determine a new current device context [Col. 8, lines 34-67; Col. 13, lines 9-63; Col. 18, lines 57-67 to Col. 19, lines 1-14].

As per claims 7 and 18, Hollenberg teaches the computing device wherein the context service module is configured to request context information from one or more of the context providers [Col. 11, lines 43-67].

As per claims 8 and 19, Hollenberg teaches the computing device of claim 1, wherein the context service module is configured to provide information concerning a current device context to one or more applications [Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claims 9, Hollenberg teaches the computing device wherein the context service module is configured to receive a request from the one or more applications that request the current device context information [Col. 9, lines 1-67 to Col. 10, lines 1-41].

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As per claims 10 and 20, Hollenberg teaches the computing device of claim 1 further comprising a context provider interface associated with the context service module, the context provider interface comprising a common interface that is capable in receiving context information from multiple different context providers [Col. 18, lines 57-67 to Col. 19, lines 1-60].

As per claims 12 and 22, Hollenberg teaches a computing device further comprising one or more events that are configured for use by one or more applications so that the applications can register to receive information concerning a current device context responsive to the occurrence of one or more events [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claims 23 and 32, Hollenberg teaches a computing device comprising:

- one or more processors [Col. 5, lines 13-28; Col. 6, lines 15-30];

- one or more computer-readable media [Fig.2a, Col. 5, lines 13-28; Col. 6, lines 15-30];

- at least one hierarchical tree structure (See Fig.2, Fig.4 and Fig.11) resident on the media and comprising multiple nodes each of which represents a geographical division of the Earth [Col. 8, lines 34-60; Col. 12, lines 13-40; Col. 21, lines 32-54]; and

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a location service module (Control programs) loadable in the memory and executable by the one or more processors to receive location information from one or more location providers and process the information to determine a current device location that comprises a node of the hierarchical tree structure [Col. 8, lines 34-60; Col. 13, lines 9-63; Col. 23, lines 64-67 and Col. 24, lines 1-63].

As per claims 24 and 33, Hollenberg teaches a computing device embodied as a mobile computing device [Fig. 2, 2a].

As per claims 25 and 34, Hollenberg teaches a computing device embodied as a desktop computing device [Col. 6, lines 15-30].

As per claim 26, Hollenberg teaches a computing device wherein the location service module is configured to determine the current device location by traversing multiple nodes of the hierarchical tree [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claims 27, Hollenberg teaches the computing device further comprising another hierarchical tree structure resident on the media and comprising multiple nodes each of which represents a physical or logical entity, the location service module being configured to determine the current device location by traversing

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multiple nodes of the hierarchical trees [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claims 28, Hollenberg teaches the computing device of claim 23 further comprising:

another hierarchical tree structure (See Fig. 2, Fig. 4 and Fig. 11) resident on the media and comprising multiple nodes each of which represents a physical and/or logical entity [Col. 8, lines 34-60 and Col. 12, lines 13-40]; and

a link between nodes on the different trees, the location service module being configured to determine the current device location by traversing multiple nodes of the hierarchical trees [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claims 29, Hollenberg teaches the computing device of claim 23, wherein the location service module is configured to provide information concerning a current device location to one or more applications for rendering location-specific services [Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claim 30, Hollenberg teaches a computing device wherein the location service module is configured to receive calls from the one or more applications that request the information concerning the current device location [Col. 18, lines 57-67 to Col. 19, lines 1-60].



As per claim 31, Hollenberg teaches a computing device wherein the location service module is configured to register one or more applications for notification of information concerning a current device location upon the occurrence of a definable event [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claim 35, Hollenberg teaches a computing device wherein the hierarchical tree structure comprises an organization specific tree structure that has context only within a particular organization [Col. 13, lines 9-63].

As per claims 36, Hollenberg teaches a computing device further comprising one or more services associated with one or more nodes of the hierarchical tree, the device comprising an application that is executing on the one or more processors to traverse the hierarchical tree to located the one or more service [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claim 45, Hollenberg teaches a computer-implemented method of determining a computing device context comprising:

receiving, with a computing device, information that pertains to a current context of the device [Col. 12, lines 13-40; Col. 13 lines 22-63];

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processing the information on and with the device to ascertain the current context of the computing device [Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 46, Hollenberg teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a mobile computing device [Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 47, Hollenberg teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a hand-held computing device [Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 48, Hollenberg teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a desktop computing device [Col. 6, lines 15-30; Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 49, Hollenberg teaches the computer-implemented method of claim 45, wherein the current context is the device location [Col. 8, lines 34-60].

As per claim 50, Hollenberg teaches the computer-implemented method of claim 49, wherein the receiving of the information

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comprise receiving information from multiple different location providers [Col. 8, lines 34-67 and [Col. 9, lines 1-67]].

As per claim 51, Hollenberg teaches computer-implemented method of claim 50, wherein the information that is received from the multiple different location providers is received in different forms [Col. 5, lines 13-46; Col. 8, lines 34-67 and Col. 9, lines 1-67].

As per claim 52, Hollenberg teaches the computer-implemented method of claim 50, wherein the receiving of the information comprises receiving the information through a common interface [Col. 23, lines 64-67 and Col. 24, lines 1-63].

As per claim 53, Hollenberg teaches the computer-implemented method of claim 45, wherein the receiving of the information comprise receiving information from multiple different context providers [Col. 8, lines 34-67 and [Col. 9, lines 1-67]].

As per claim 54, Hollenberg teaches the computer-implemented method of claim 53, wherein the information that is received from the multiple different location providers is received in different forms [Col. 5, lines 13-46; Col. 8, lines 34-67 and [Col. 9, lines 1-67]].

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As per claim 55, Hollenberg teaches computer-implemented method of claim 53, wherein the receiving of the information comprises receiving the information through a common interface [Col. 23, lines 64-67 and Col. 24, lines 1-63].

As per claim 56, Hollenberg teaches the computer-implemented method of claim 45 further comprising receiving a request from an application for information that pertains to the current context of the mobile computing device and returning at least some information to the application [Col. 11, lines 43-67].

As per claim 57, Hollenberg teaches the computer-implemented method of claim 45 further comprising receiving at least one event registration from one or more applications that-pertains to an event for which the application is to receive information pertaining to the current context of the computing device, and returning information pertaining to the current context of the computing device to the one or more applications responsive to the occurrence of an client [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claim 58, Hollenberg teaches one of more computer-readable media having computer-readable instructions thereon which, when executed by a computing device, cause the computing device to:

receive information that pertains to a current location of the device, the information being received from multiple

different location providers [Col. 8, lines 34-67 and [Col. 9, lines 1-67]; and

process the information to map the information to a node of a hierarchical tree structure that comprises multiple nodes that represent either (1) geographical divisions of the Earth or (2) physical or logical entities [Col. 12, lines 13-40; Col. 13 lines 22-67 and Col. 14 lines 1-37]; and

traverse the hierarchical tree structure to ascertain the current device location [Col. 12, lines 13-40; Col. 13 lines 22-67 and Col. 14 lines 1-37];

As per claim 59, Hollenberg teaches a computer-implemented method of determining the location of a hand-held, mobile computing device comprising:

maintaining a hierarchical tree structure on the mobile computing device, the tree structure comprising multiple nodes each of which represent geographical divisions of the Earth [Col. 12, lines 13-40; Col. 13 lines 22-67 and Col. 14 lines 1-37];

receiving information from multiple different location providers that describe aspects of a current device location [Col. 8, lines 34-67 and [Col. 9, lines 1-67];

processing the information with the mobile device to ascertain a node on the tree structure that likely constitutes a current device location [Col. 12, lines 13-40; Col. 13 lines 22-67 and Col. 14 lines 1-37]; and

traversing at least one other node of the tree structure to ascertain additional location information that is associated with the current device location [Col. 12, lines 13-40; Col. 13 lines 22-67 and Col. 14 lines 1-37].

As per claim 60, Hollenberg teaches the computer-implemented method of claim 59, wherein:

the maintaining of the hierarchical tree structure comprises maintaining multiple hierarchical tree structures that are linked with one another [Col. 12, lines 13-40; Col. 13 lines 22-67 and Col. 14 lines 1-37]; and

the traversing comprises traversing the multiple hierarchical tree structures to ascertain the additional location information [Col. 12, lines 13-40; Col. 13 lines 22-67 and Col. 14 lines 1-37].

As per claim 61, Hollenberg teaches the computer-implemented method of claim 60, wherein one tree structure comprises a unique representation of a physical or logical entity [Col. 12, lines 64-67 to Col. 13, lines 1-8].

As per claim 62, Hollenberg teaches the computer-implemented method of claim 59 further comprising receiving a request from one or more applications for information that pertains to a current device location and providing the one or more

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applications with the information that pertains to the current device location [Col. 8, lines 34-67; Col. 13, lines 9-63.

As per claim 64, Hollenberg teaches the computer-implemented method of claim 62, wherein the receiving of the request comprises receiving an event registration [Col. 8, lines 34-67; Col. 13, lines 9-63.

As per claim 65, Hollenberg teaches the computer-implemented method of claim 62 further comprising applying a security policy to the information that pertains to the current device location before providing the information to the one or more applications [Col. 23, lines 12-36].

As per claim 66, Hollenberg teaches the computer-implemented method of claim 59 further comprising before processing the information to ascertain a node, resolving any conflicts that might exist between information that is received from different location providers [Col. 13, lines 9-21 Col. 23, lines 37-67 and Col. 24, lines 1-28; Col. 27, lines 33-67 to Col. 28, lines 1-55].

As per claim 67, Hollenberg teaches theOne or more computer-readable media maintain or access a hierarchical tree structure (See Fig.2, Fig.4 and Fig.11) on or with the computing device, the tree

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structure comprising multiple nodes each of which represent geographical divisions of the Earth [Col. 8, lines 34-60; Col. 12, lines 13-40; Col. 21, lines 32-54];

receive information from multiple different location providers that describe aspects of a current device location [Col. 8, lines 34-60; Col. 8, lines 34-67 and [Col. 9, lines 1-67];

process the information with the device to ascertain a node on the tree structure that likely constitutes a current device location [Col. 12, lines 13-40; Col. 13 lines 22-63];  
traverse at least one other node of the tree structure to ascertain additional location information that is associated with the current device location [Col. 13 lines 22-67 and Col. 14 lines 1-37];

receive one or more calls from one or more applications for information that pertains to a current device location, the applications being configured to render location-specific information [Col. 18, lines 57-67 to Col. 19, lines 1-60]; and supply at least some information that pertains to the current device location to the one or more applications [Col. 9, lines 1-67 to Col. 10, lines 1-41].



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims, 11, 21, 37-44 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenberg US (6091956) in view of Reed et al US (6088717).

As per claims 11 and 21, Reed et al teach computing device of claim I further comprising one or more application program interfaces (APIs) operably associated with the context service module, the one or more APIs being callable by one or more applications to acquire information concerning the current device context [See the rejection below on Claim 37. Col.95 lines 66-67 and Col.96, lines 1-60].

As per claim 37, Hollenberg teaches a location-aware computing system comprising:

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one or more computing devices [Fig. 2a, Col. 5, lines 13-28; Col. 6, lines 15-30];

each computing device having a software architecture comprising:

a location provider interface that is configured to receive location information [Col. 19, lines 1-60; Col. 6, lines 15-30];

a location service module (Control programs) communicatively associated with the location provider interface and configured to receive the location information from the multiple different location providers and process the information to ascertain a current device location [Col. 5, lines 13-28; Col. 13, lines 9-63; Col. 23, lines 64-67 and Col. 24, lines 1-63];

one or more or events associated with the location service module and defining a mechanism through which information concerning a current device location can be provided to one or more applications that are configured to provide location-specific services [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

Hollenberg is silent about using one or more application program interfaces (API). However, Reed et al, in an analogous art, teach using application program interfaces (API) to access the data, metadata, and methods of communications operations between provider computer and consumer computer [Col.141, lines 60-67 and Col.142, lines 1-29]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention

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to use Reed et al's API communication system with the system of Hollenberg to access data, metadata, and methods of the communications objects stored in databases [Col.141, lines 60-67 and Col.142, lines 1-18].

As per claim 38, Hollenberg teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a mobile computing device [Fig. 2, 2a].

As per claim 39, Hollenberg teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a desktop computing device [Col. 6, lines 15-30].

As per claim 40, Hollenberg teaches the location-aware computing system of claim 37, wherein the location provider interface is configured to receive location information from multiple different location providers [Col. 8, lines 34-60; Col. 12, lines 13-40].

As per claim 41, Hollenberg teaches the location-aware computing system of claim 37, wherein the location provider interface is configured to receive location information from multiple different location providers, the location service module being configured to poll one or more of the location providers so that

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the polled location provider can provide location information to the location provider interface [Col. 11, lines 43-67].

As per claim 42, Hollenberg teaches the location-aware computing system of claim 37 further comprising:

one or more computer-readable media [Col. 5, lines 13-28; Col. 6, lines 15-30]; and

a hierarchical tree structure resident on the media and comprising multiple nodes each of which represent geographical divisional of the Earth, the location service module being configured to process the information to ascertain a current device location that comprises one node on the hierarchical tree structure [Col. 8, lines 34-60; Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claim 43, Hollenberg teaches the location-aware computing system of claim 42, wherein the location service module is configured to ascertain a current device location by traversing the hierarchical tree structure to a root of the tree structure [Col. 8, lines 34-60; Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claim 44, Hollenberg teaches the location-aware computing system of claim 42 further comprising one or more additional hierarchical tree structures resident on the media and comprising multiple nodes each of which represent physical or logical

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entities, the additional hierarchical trees each having at least one node that is linked with the first-mentioned hierarchical tree structure, the location service module being configured to ascertain a current device location by traversing at least one of the additional hierarchical trees and the first-mentioned hierarchical tree [Col. 8, lines 34-60; Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claims 63, Reed et al teach the computer-implemented method of claim 62, wherein the receiving of the request comprises receiving a call to an application program interface (API) [Col.141, lines 36-67 and Col.142, lines 1-18].

### ***Conclusion***

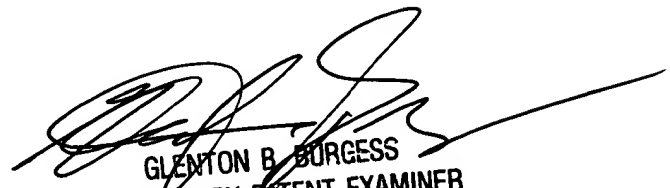
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin M Barqadle whose telephone number is 703-305-5971. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 703-305-9717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7201 for regular communications and 703-305-5404 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-304-3900.

Yasin Barqadle



GLENTON B. BURGESS  
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